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AUTHOR Scott, Ralph
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ABSTRACT

This report describes Home Start, a sequential, highly individualized enrichment program for disadvantaged 2- to 5-year-olds. The program, based on the theoretical need hierarchy of Maslow, focuses on community and family dynamics. Home Start encouraged interdisciplinary collaboration, using the services of psychologists, social workers, home economists, nurses, speech therapists, preschool teachers, and paraprofessionals. This report (1) discusses the parental involvement in Home Start, (2) describes how vulnerable families were identified and referred to community agencies, and (3) presents longitudinal data 19 months after the program's termination. (DP)

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RESEARCH AND EARLY CHILDHOOD:

THE HOME START PROJECT

Ralph Scott, MSW, PhD

University of Northern Iowa
Cedar Falls

Recent studies have demonstrated that few compensatory programs have had a measurable impact on the learning of vulnerable children (Cohen, 1972; Jencks, 1972). It would be easy to conclude from these reports that effective intervention is not feasible and that little can be done to promote the learning of deprived children. Hunt (1969), however, takes the position that we have never really attempted to shape viable intervention programs. Home Start (HS) is a Title III ESEA project which provided sequential and highly individualized enrichment to children from two to five years of age. The experimental results of the program strongly suggest that carefully planned preschool programs, which emphasize interdisciplinary collaboration, can foster the learning of deprived children.

HS drew upon Maslow's (1954) position concerning need hierarchy. According to this view, there is a natural order to human motivation and a direct relationship between motivation and learning. Thus if a child's basic needs (such as food, shelter and clothing) are essentially unmet the child will not divert much energy to gratify affective needs. Similarly, if a child's affective needs (love, security, consistent and predictable limits) are basically unmet the child will not actively pursue cognitive learning.

Education has historically focused on cognitive needs. When a child has a short attention span, many educators are prone to suggest visual-motor or memory training exercises rather than to consider such possibilities as whether the

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child came to school hungry (basic need) or the extent to which he receives attention and affection (affective needs) within the home. It is hardly surprising therefore that many educators and disadvantaged children often pass each other "like ships in the night", without understanding each other.

From the outset, HS focused on community and family dynamics. The program evolved from a Title I, Higher Education Act, series of discussions among representatives of social and educational agencies, private and parochial schools, civic organizations, and parents. Their discussions led them to the expression of a desire for, and a commitment to, an innovative preschool program. Such a commitment, the experience of HS shows, is essential not only to the success of a program of preschool enrichment, but also to the development of a regular school program which enables the children to maintain the momentum gained in the preschool program.

This broad approach to compensatory education required participation by representatives of many disciplines. The HS staff included a psychologist, social worker, home economist, nurse and speech therapist in addition to preschool teachers and paraprofessionals. Twenty one community agencies served as sources of supplementary, and often critically important, help for participating HS families.

BACKGROUND OF THE PROJECT

There is reason to believe that effective educational intervention may be most effectively carried out during the child's preschool years. Bloom (1964) estimates that two-thirds of a child's general reasoning abilities are determined by the age of six. The salience of the early years to later life styles has been documented by studies which have demonstrated a close relationship between

students' first and twelfth grade IQ and achievement test scores (Inhelder and Piaget, 1964; Jencks, 1972). In general, these studies support the view that cognitive growth is most rapid during the preschool years, which may hold the key to development of more effective compensatory education and social work programs.

The complexity of human behavior presents an obstacle to valid assessment of compensatory programs and increases the need for long term assessment of intervention efforts. Many preschool programs have emphasized language enrichment and employed end-of program posttests which are heavily weighted in language. These programs have invariably produced short term gains at best which only confirm the well known fact that it is possible to produce temporary traits by systematically clustering experiences (Anastasi, 1972). Stodolsky and Karlson (1972) have recently hypothesized that short term verbal gains may reflect emotional and motivational factors and have tested this by comparing verbal and performance attainments of preschool children who participated in a Montessori-type program. As predicted, language gains appeared at the end of the first, but disappeared during the second, year of program participation. Gains on performance measures, however, were sustained throughout the second year of enrichment. The authors concluded that Montessori program participants may have been sufficiently challenged to learn performance skills over a longer period of time. These findings suggest the value of studies aimed at ascertaining longer term shifts in cognitive profiles of youngsters who have participated in preschool enrichment programs.

The present paper (1) discusses parental involvement in HS (2) describes how particularly vulnerable families were identified and referred to community agencies and (3) presents the longitudinal effects of HS 19 months after termination of the program.

METHODS

The program: The HS program offered three years of prekindergarten readiness enrichment for youngsters from two to five years of age. The program consisted of hourly visits, once per week, in the child's home. In these visits paraprofessional home workers, who resided within the "target area" served by the program, conferred with the mother or mother surrogate concerning family interaction. Focus was given to what the child had been doing in the home, questions which any family member might have with respect to what the child might be doing, how books and toys could be appropriately selected and made available. A large inventory of toys and books was maintained and parents of HS children were encouraged to visit the storeroom and check out materials.

Content and process of the paraprofessional home workers' parental contacts were assessed in weekly staff meetings attended by professional HS staff. In staff meetings, questions concerning children's development were raised and questions were entertained as to whether a professional HS member should become involved in the home to assess the feasibility of referral to a community agency. Approximately one-third of all participating children were identified as being either physically or mentally handicapped and their parents were referred to a community agency. Most of the children referred were considered multiply-handicapped. Referrals included children with handicaps in the following areas: hearing, vision, speech, emotionally disturbed, crippled, learning disabled and mentally retarded.

Individualized enrichment was built around an integration of each child's interests and of diagnostic results secured through an achievement-oriented preschool test, the Iowa Tests of Preschool Development (ITPD). The ITPD was administered by paraprofessional testers at six month intervals and contains four

subtests (Language, Visual Motor, Memory and Concepts). After each testing, a report was prepared by the school psychologist and sent to the HS director. This report suggested various types of activities which would be appropriate for the child. The HS director discussed the results with the home worker and any professional member of the HS staff who might be working with the family.

The year prior to kindergarten admission and in addition to continuing and regular home visits, HS children were also provided with an academic year of prekindergarten enrichment, 2½ hours per day and 5 days per week. The teacher was a college graduate, with a major in lower elementary education. Early in the prekindergarten year, the children were given the LRS Seriation Test (LRS ST) and each child's performance on the five LRS ST factors was assessed to formulate individualized learning strategies (Scott, Dunbar, Nelson, 1968).

Subjects: Subject selection was initiated during the summer of 1968, when census tract cards were employed to identify parents of all children (1) who resided in the four "target" attendance centers designated by the Office of Economic Opportunity as socioeconomically disadvantaged and from which participants for the HS program were drawn and (2) eligible to attend kindergarten in the fall of 1971. The HS director conferred with community agencies to increase the liklihood of including in the program new arrivals to the city.

The parents of 89 HS children (51 black, 38 white) applied for admission into HS and all were accepted. Seventy one HS Ss (47 blacks, 24 whites) were still residing in the target areas and participating in the program when they reached their fifth birthday. There was no evidence of selective migration inasmuch as Stanford Binet IQs of Ss moving from the target areas were not significantly different from IQs of Ss remaining in the target attendance centers. HS Ss continued in the program until August, 1971. Not a single HS S dropped out of the program and still lived in the target area at the time of kindergarten enrollment.

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Forty four HS Ss had older siblings and since matching by traditional SES criteria fails to control for home background factors (Goldstein et al, 1970; Wilson, 1969) it was decided to employ these older siblings as control Ss. The feasibility of such an approach was suggested by Bachman (1970), who found little if any relationship between ordinal position and IQ or school achievement.

Instruments: The tests of Primary Mental Abilities (PMA) were utilized to assess the impact of HS inasmuch as this instrument yields not only a total IQ but also four subtest scores which provide a general but educationally useful readiness profile. The Verbal Meaning (VM) subtest of the PMA measures receptive language. Other PMA subtests are Perceptual Speed (PS) which requires Ss to find similar objects, Number Facility (NF) which emphasizes number readiness, and Spatial Relations (SR) which requires the child to reproduce a geometric design with a pencil and to identify which of several geometric figures are missing from partially completed squares.

HS Ss were given the PMA at five years of age and again in first grade (mean CA of HS Ss, 6 years 7 months). Control Ss (the 44 older siblings of HS Ss) were also given the PMA. It was possible to secure first grade group PMA scores on 32 of the older siblings (mean CA 6 years 6 months, mean Total PMA IQ 103.0). Mean CA of the remaining 12 older siblings, at time of PMA testing, was 8 years 9 months. Separate Mann-Whitney U Tests were computed for HS siblings which indicated that difference in scores of HS Ss and their first grade or the older school siblings were not of such a magnitude as to lead to sampling variations.

RESULTS

Table 1 reviews the first HS Ss' PMA scores when they were five years old, and also summarizes the results of the present experiment. Initial HS Ss' PMA attainments are given in the parentheses immediately below their first grade

scores. For example, when black HS Ss were five years old and first tested on

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Insert Table 1 about here

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the PMA, their mean VM IQ was 107.1, which was significantly higher ($p < .01$) than VM scores of their older siblings which was 94.1. However, on first grade testing administered 19 months later, the average black HS Ss' IQs in VM had declined to 96.9 and the resulting t of 0.90 is statistically insignificant.

As noted on Table 1, there has been a marked shift in the profiles of HS black Ss and their older siblings. As mentioned, the VM differences favoring HS Ss have disappeared but HS black Ss now secure significantly higher IQs in the NF and SR subtests. Table 1 also shows that there has been less shift in the cognitive profiles of white HS Ss and their older siblings. HS white Ss maintained a statistically significant advantage over their older siblings in NF and Total PMA IQs but not in VM.

DISCUSSION

Generalizations concerning the findings of this experiment must be qualified in view of the nature of the community and sample size. However, it appears that important cognitive shifts have occurred during the 19 months that have elapsed since prior testing of HS Ss.

One of the most striking shifts has occurred in the VM subtest. On the first PMA testing there was a statistically significant difference between VM IQs of HS black and white Ss and their older siblings ($p < .01$). Nineteen months later HS black Ss' VM IQs have declined 10.2, and HS white Ss 13.3, IQ points. There are no longer statistically significant difference in the VM attainments of either black or white HS Ss and their older siblings. These results support

the Stodolsky-Karlson (1972) thesis that short term language gains of children who receive compensatory education are likely to be transitory.

The results also indicate that PS gains by five years of age are more durable than VM attainments. From first to second PMA testing, black HS Ss' PS scores increased 2.2 IQ points while PS scores of white HS Ss declined 3.3 IQ points. Consequently, black HS Ss maintained significantly higher PS scores than their older siblings while this was not the case with white HS Ss and their siblings for whom significant differences did not exist at either testing.

On the NF subtest, HS black Ss secured a mean increase of 8.2 IQ points since first testing, while white HS Ss registered an average gain of 1.6 IQ points. Consequently, black but not white HS Ss secured significantly higher scores on the NF subtest than their older siblings. Black HS Ss' SR scores averaged 2.9 IQ points higher than their previous attainments while the mean gain of white HS Ss over their initial PMA attainments in the SR subtest area was 1.2 IQ points and as a result HS black but not white Ss secured significantly higher SR scores than their older siblings.

SUMMARY

A follow-up study compared the PMA subtest and Total PMA scores of HS Ss and their older siblings, 19 months after similar comparisons had been made. The first testing occurred as HS Ss were completing participation in an enrichment program for children from two to five years of age; at that time the HS Ss were five years of age and were about to enter kindergarten.

The present experiment reveals that since the first comparative evaluation of HS Ss and their older siblings there has been little change in the cognitive profiles of HS white Ss and their siblings, except for a significant decline in VM

which was also observed with black HS Ss. The findings reveal significant shifts in the cognitive profiles of black Ss since end of program results were secured. As mentioned, black Ss' VM IQs declined sharply. However, PS IQs held steady and gains are noted in both the NF and SR subtest areas. Although replication studies are obviously needed, ethnic-specific long term gains of HS blacks suggest that very early preschool intervention, which enables children and their parents to define their own curriculum, may provide the momentum for ongoing gains in all PMA areas except VM while similar long term gains are not achieved by white HS Ss.

These findings must be viewed in the context of an early enrichment program which utilized the discovery method and enabled each child to define his own treatment group, and which emphasized staff alertness to the value of inter-disciplinary collaboration and of referrals to existing community agencies.

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FOOTNOTES

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Table 1

PMA IQs and t-scores, black and white Home Start participants and their siblings

		Verbal Meaning (VM)	Perceptual Speed (PS)	Number Facility (NF)	Spatial Relations (SR)	Total PMA IQ
Home Start blacks	(N 30)	96.9	112.4	99.2	95.7	99.3
		(107.1**)	(110.2**)	(91.0)	(92.8)	(100.9**)
		t=0.90	t=3.07**	t=1.88*	t=2.66**	t=2.37**
Siblings of Home Start blacks	(N 30)	94.1	100.3	92.6	86.9	93.5
Home Start whites	(N 14)	106.9	115.8	111.9	104.6	109.4
		(119.6**)	(119.1)	(110.3*)	(103.4)	(113.3**)
		t=0.28	t=0.89	t=3.54**	t=0.80	t=1.81*
Siblings of Home Start whites	(N 14)	105.7	111.1	98.0	100.3	103.4

*$p < .05$
**$p < .01$